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AUS920010142US1 Arndt et al.

Method and Apparatus for Isolating Failing Hardware in a PCI Recoverable Error

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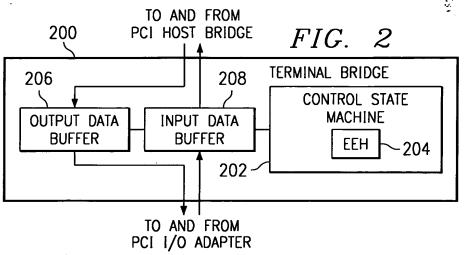


FIG.DIAGNOSTIC 312 308-ERROR LOG **PROCESS** - 302 OPERATING SYSTEM FIG. 5 **KERNEL DEVICE** 310~ 306 **DRIVER SERVICE START** RECEIVE CALL FROM DEVICE TO PLACE DRIVER SLOT **RTAS** 300-UNAVAILABLE STATE QUERY HARDWARE **HARDWARE** 304-COMPONENT IN SLOT FOR FAULT INFORMATION FIG. PLACE SLOT IN PERMANENT RESET STATE **START** 600 RETURN FAULT INFORMATION TO DEVICE DRIVER **DETECT** NO REPLACEMENT OF **DEVICE? END**

YES

RESET SLOT TO

AVAILABLE STATE

END

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WAS DETECTED

AUS920010142US1 Arndt et al. Method and Apparatus for Isolating railing Hardware in a PCI Recoverable Error 3/3 FIG. 4 **START** SYSTEM STARTED OR PCI ADAPTER - 400 HOT-PLUGGED INTO ITS SLOT IF ERROR COUNT FOR ADAPTER IN 402 OPERATING SYSTEM DEVICE DRIVER= O, SET ERROR COUNT TO ZERO 404 PCI ADAPTER OPERATION PERFORMED 406 PCI **RECOVERABLE** NO **ERROR DETECTED** BY HARDWARE YES 408 **RECOVERABLE** ERROR IS REPORTED NO 420 AS A TARGET OR MASTER ABORT HARDWARE STOPS SLOTS RETURNING ALL "1's" FOR ANY READ YES DEVICE DRIVER DETECTS DEVICE DRIVER INCREMENT POSSIBLE EEH STOP STATE COUNT OF ERRORS (ALL "1's" RETURN), AND QUERY TERMINAL BRIDGE 410 **THRESHOLD** 422 OF ALLOWED ERRORS EEH YES STOP STATE **EXCEEDED?** DEVICE DRIVER LOGS AN ERROR 412 ¥NO 424 **I**YES TO SYSTEM INITIATE OTHER DEVICE DRIVER MAKES FIRMWARE WITHOUT DETAILED **ERROR PROCESSING** CALL TO MARK PCI SLOT AS FAULT ISOLATION PERMANENTLY UNAVAILABLE **~414** DEVICE DRIVER 426 RESETS PCI SLOT DEVICE DRIVER LOGS ERROR TO ALLOW INFORMATION AND OPERATION TO BE -416 ENDS USAGE OF THE ADAPTER RETRIED IF EEH STOPPED STATE

END